

Unit 6

Day 3

Complex Fractions

Def: Complex rational expression- is a rational expression that contains another rational expression in the numerator and/or the denominator

1)

$$\frac{1}{2} + \frac{2}{3}$$

$$\frac{1}{3}$$

2)

$$\frac{2 - \frac{3}{x}}{1 + \frac{1}{2x}} \cdot \frac{2x}{2x} = \frac{4x - 6}{2x + 1}$$

$$-\frac{3}{x} \cdot \cancel{2x}$$

$$\frac{1}{\cancel{2x}} \cdot \cancel{2x}$$

3)

$$\frac{3 + \frac{1}{y-1}}{1 + \frac{2}{y+1}} \cdot \frac{(y-1)(x+1)}{(y-1)(y+1)}$$

$$\frac{(y+1)(3y-2)}{(y+3)(y-1)}$$

$$\begin{aligned} &= \frac{3(y-1)(y+1) + y+1}{(y-1)(y+1) + 2(y-1)} \\ &= \frac{3y^2 - 3 + y + 1}{y^2 - 1 + 2y - 2} \\ &= \frac{3y^2 + y - 2}{y^2 + 2y - 3} \end{aligned}$$

4)

$$\frac{\frac{5}{x^2+5x+6} - \frac{2}{x+3}}{\frac{x-1}{x^2-9}} = \frac{\frac{5}{(x+3)(x+2)} + \frac{-2x-4}{(x+3)(x+2)}}{\frac{x-1}{(x-3)(x+3)}}$$

$$\frac{\frac{-2x+1}{(x+3)(x+2)} - \frac{(x-3)(x+3)}{(x-3)(x+3)}}{\frac{(2x+1)(x-3)}{(x+2)(x-1)}} = \frac{-2x+1}{\frac{(x+3)(x+2)}{(x-3)(x+3)}}$$

5)

$$\frac{a^{-1}b + b^{-1}}{(ab)^{-1}}$$

HOMEWORK:

P. 62: 77-82 (ALL)

WORKSHEET: 2-36 (EVEN)